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# **A Railway to the North**

A Preliminary Report  
On The Proposed Routes  
For a Northern Alberta Railway  
And Its Regional Planning Significance To The Peace River District

by

THE PEACE RIVER DISTRICT PLANNING COMMISSION



## Prairie Provinces Collection

*Smith*

August 20, 1958.

A RAILWAY TO THE NORTH

*Hoping that this publication  
will prove useful to you  
in your work.  
Chiller.*

A Preliminary Report  
On The Proposed Routes  
For A Northern Alberta Railway  
And Its Regional Significance To The Peace River District

by

THE PEACE RIVER DISTRICT PLANNING COMMISSION

*Charles Robertson*

A. Robertson,  
Chairman,  
PEACE RIVER DISTRICT PLANNING COMMISSION

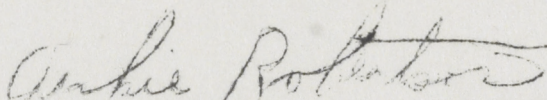


August 20, 1958.

The Right Honorable John Diefenbaker,  
Prime Minister of Canada,  
Ottawa.

The Peace River District Planning Commission was established by an Order-in-Council on July 8, 1958. This Commission is comprised of member municipalities in the Peace River Area as well as representatives from the Government of Alberta. As our first major project we have prepared a report on the proposed railway location in Northern Alberta. We have examined particularly the comprehensive planning effects of a railway location on the North itself, on Alberta, and on Canada. It is believed that a regional planning approach to the problems of a northern railway location is the only valid one because it considers all the social, economic, and physical factors involved. Our study has pointed out a number of directions for further investigation. These should be studied in more detail by a professional staff. Finally, it is believed that such a railway project should be only the first step in the implementation of a comprehensive plan of development for the North. "A Railway to the North" is then, this Commission's contribution to the thinking that must eventually lead to the railway's location. We believe that if the location of this railroad is just one part of a much broader and more carefully conceived plan of northern development, it could create a new prosperity for the people of the North, for those of Alberta, and for those of Canada, which no other approach could ever hope to achieve.

respectfully submitted,



A. Robertson,  
Chairman,

PEACE RIVER DISTRICT PLANNING COMMISSION



# THE PEACE RIVER DISTRICT PLANNING COMMISSION

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Department of Agriculture . . . . .	A.W. Beattie
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## A RAILWAY TO THE NORTH

By an Order-in-Council on July 8, 1958, in Edmonton, the Peace River District Planning Commission was established.<sup>1</sup> The powers of various Planning Commissions is outlined in the Town and Rural Planning Act.<sup>2</sup> These are the long range planning objectives of the Peace River District Planning Commission.

101-1 A Commission shall prepare and adopt a district general plan to secure an orderly and economic development of the area as a whole.

-2a By a District general plan the Commission shall divide the district planning area or any part thereof into zones of permitted land use categories including low density agricultural, high density agricultural, small holding country residence, highway commercial, district recreational, general urban, new general urban, and major industrial zones, or any of these and such other zones as the Commission may deem necessary and essential for the purposes of the plan.

-2b Make proposals relating to roads, services, public building, schools, parks, and other open spaces, and the reservation of land for these and similar purposes.

-2c The conservation of natural resources ... and the best utilization of planning resources of the district planning area.

-2d The location, attraction, development, diversification, and dispersal of industry within the planning area.<sup>2</sup>

The location of a railway in the northern part of Alberta will have tremendous effect upon any such long range planning that may be undertaken

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<sup>1</sup> John J. Bowlen, Lieutenant Governor-in-Council, Order-In-Council ,, 1009, (Edmonton, July 8, 1958), typed copy.

<sup>2</sup> The Town and Rural Planning Act, Part IV, Chapter 337 of the Revised Statutes of Alberta, 1955, p. 12. 6 Eliz. 2.



by the Peace River District Planning Commission. The Commission, for this reason, is investigating the routing of the railway to determine what this effect may be as well as for the purpose of "making some proposals relating to roads".

It is therefore of vital concern to the Peace River District Planning Commission that the location of a proposed railway to the North be carefully considered from a planning point of view as well as from other viewpoints such as railway or mineral economics.

## INTRODUCTION

Plans for a railway through the northern part of Alberta to the North West Territories has been a project in the minds of Albertans for many years. A number of written reports speak of a railway line from Grimshaw northwards.

What was known as the Northern Alberta Railway was created, comprised of equal ownership by the Canadian National Railway and the Canadian Pacific Railway. By the statute of incorporation this railroad, the Northern Alberta Railway, was authorized to commence construction of, and given authority to build, a railway to the North West Territories. A branch line from a point at, or near, Grimshaw, in a northerly direction. ... to the northern part of the said Province.

.....  
 Certainly the Department of Northern Affairs felt that way in 1956 because they presented a brief to the Gordon Commission. On page 24 of the brief there is a map -- I believe that it was submitted by Mr. R.B. Robinson, Commissioner of the North West Territories, which shows this railroad projected into the Great Slave Lake area and it shows it starting from Grimshaw. A railway to Great Slave Lake will not be just another railway. It is not a railway to a lake, or to open up a mine, or to serve a community. A railway to Great Slave Lake will be one of the great developmental railroads of the Country. It will not bring population to the North West Territories to the same extent that the western railroads brought it to the Prairies; but it may well bring, in the years ahead, a comparable increase in the wealth of Canada. This railroad is quite



different from most of the branch lines constructed in recent years which are destined to serve one mine or a group of mines; its purpose is to open up a whole new Region.<sup>3</sup>

## THE ROUTING OF A RAILWAY TO THE NORTH

There appear to be a number of feasible routes for a railway to follow in northern Alberta in order to reach Pine Point.<sup>4</sup> Of these, one route from Waterways<sup>5</sup> and another from Grimshaw appear to be the most practical. These two routes are shown on Drawing 1, on page 4.<sup>6</sup> This drawing shows the existing railway system in northern Alberta consisting of the Pacific Great Eastern Railway in British Columbia, the Canadian National Railway, and the Canadian Pacific Railway. The MacKenzie Highway is shown extending from Grimshaw to Hay River. Proposed roads along the Peace River to Uranium City and in the south to Waterways are also indicated. A winter road extends from Lake Athabaska to Waterways. A water transport route runs from Waterways to

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<sup>3</sup> G.W. Baldwin, Member of Parliament, The Railroad to Great Slave Lake, A Report on House of Common Debates, June, 1958. (Ottawa: Queens Printer)p.3,7

<sup>4</sup> J.G. MacGregor, et al, Report on the Royal Commission on the Development of Northern Alberta, (Edmonton: Commercial Printers, 1958), p.94.

<sup>5</sup> This route is termed the Waterways or the McMurray route since both communities are found near the end of the railway line in that area.

<sup>6</sup> Data for Drawing 1 were obtained from:

<sup>4</sup> MacGregor, op. cit. et passim.

The Hon. R.W. Bonner, QC, An Economic Appraisal of the Proposed Rail Route to Pine Point, North West Territories, (Victoria: Department of Industrial Development, Trade, and Commerce), mimeographed map, Volume per acre of all merchantable timber in Alberta.

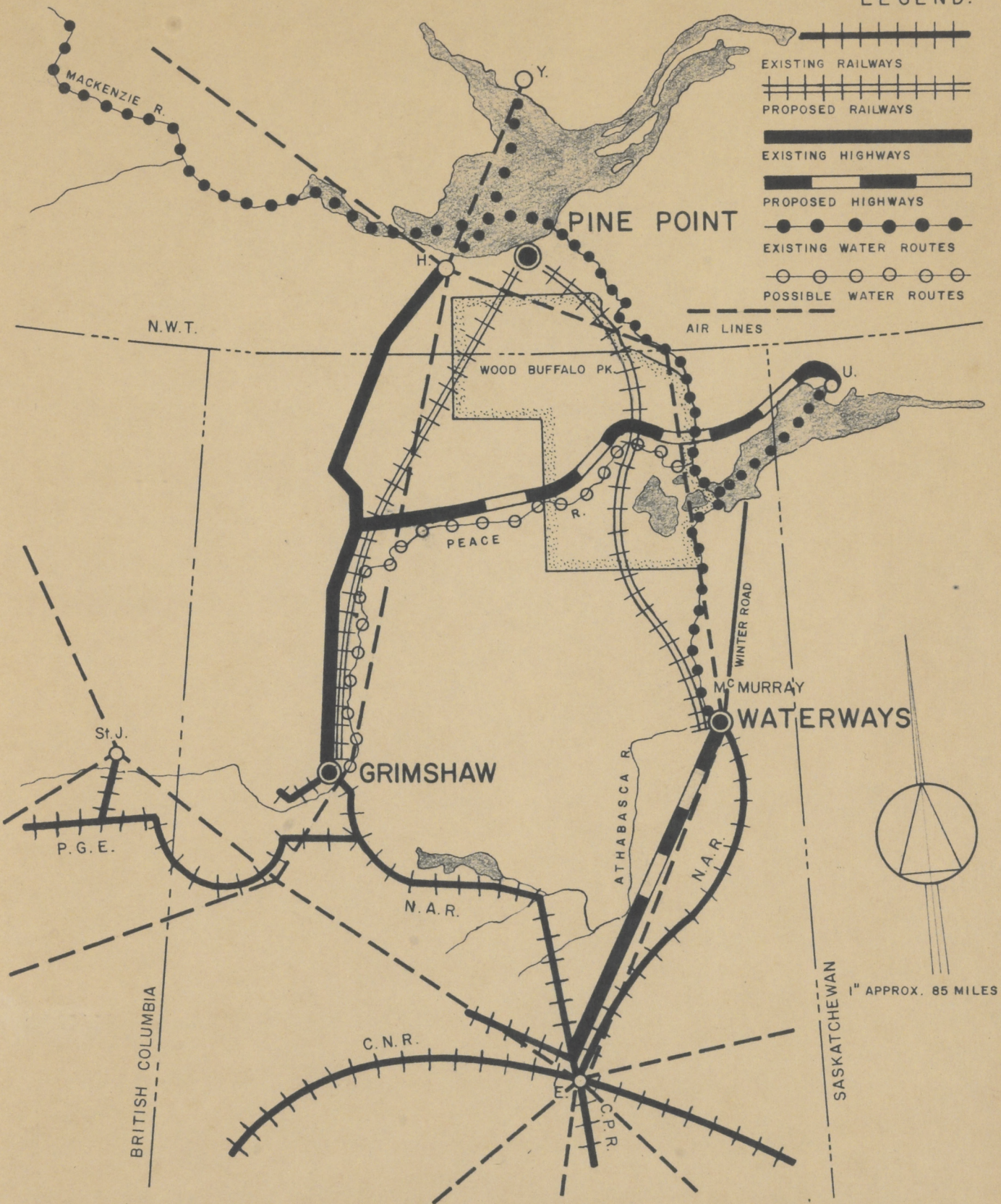
Calgary Power Limited, Alberta, Province of Opportunity, A survey of the resources and economic possibilities, (Calgary, 1958), p. 103-09.

Alberta, Department of Economic Affairs, Economic Survey of the Town of Peace River, (Edmonton: mimeographed, September, 1951) p.6.

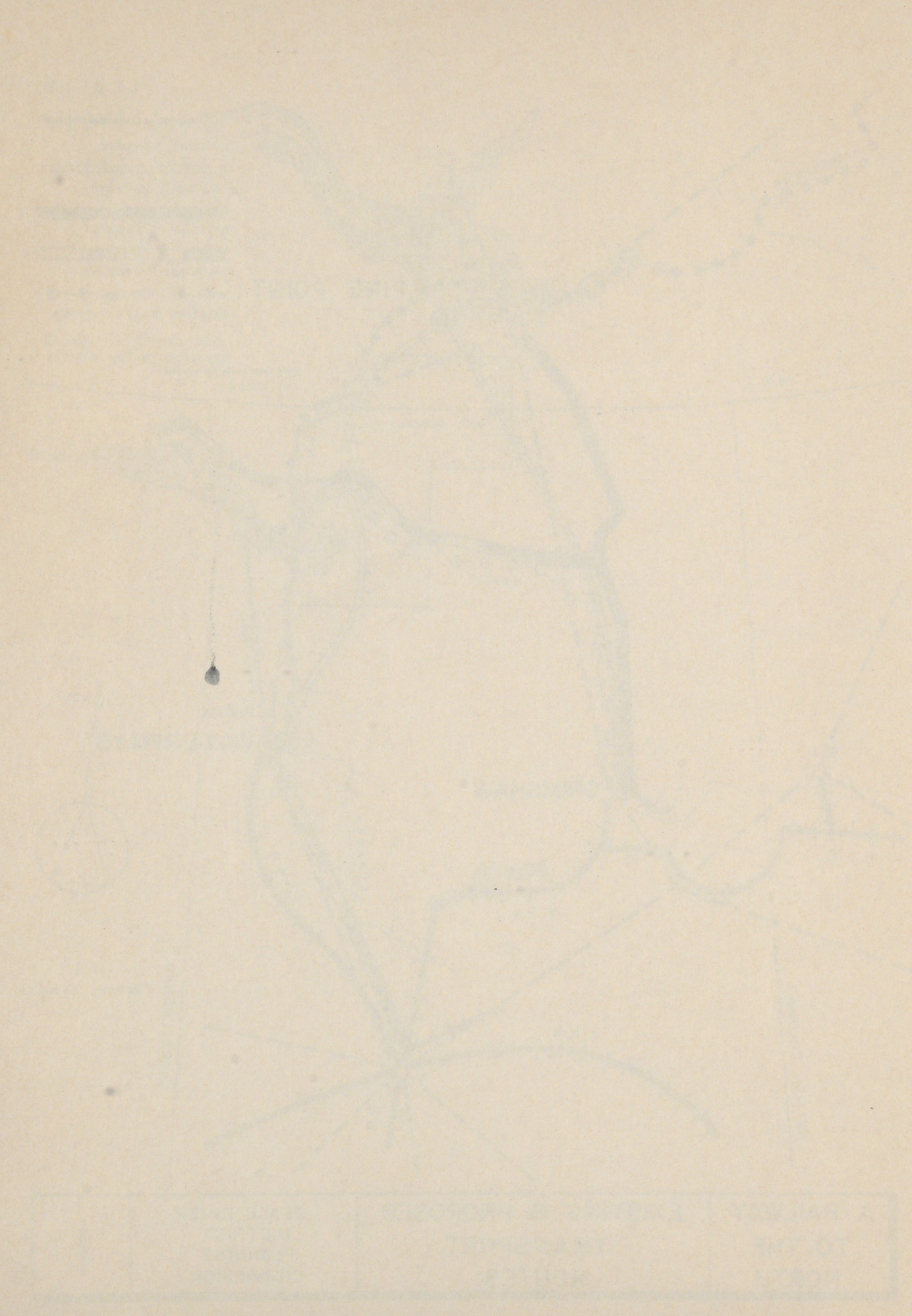


LEGEND.

- EXISTING RAILWAYS
- PROPOSED RAILWAYS
- EXISTING HIGHWAYS
- PROPOSED HIGHWAYS
- EXISTING WATER ROUTES
- POSSIBLE WATER ROUTES



A RAILWAY TO THE NORTH	EXISTING & PROPOSED TRANSPORT ROUTES.	PEACE RIVER DISTRICT PLANNING COMMISSION	
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Uranium City and the Great Slave Lake or perhaps down the MacKenzie River. Another possible water route is shown extending along the Peace River from Grimshaw. A number of reports have been prepared regarding the advantages of the Grimshaw and the Waterways routes. Those that were available have been examined. Some time has been spent considering the advantages of each route. The more important factors which appear to favor each of the two routes have been summarized.

#### A. The Waterways Route

There was very little information available on the advantages of this route. From study and from information that was available the following appear to be significant factors.

1. The northeastern part of Alberta is relatively undeveloped and a railway through this area will open the country to development and settlement. The northwestern part of the Province is already served by the MacKenzie Highway which has opened the way to settlement and development.

2. A number of potential resources exist in the northeastern part of the Province which could perhaps be utilized if the railway access were provided. Drawing 4 on page 14, shows the location of some of these resources.<sup>7</sup> These resources include possible base and precious metal mineral deposits, possibly useful deposits of tar sands, oil, clays, salt, and some hydro-electric potential.

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<sup>7</sup> Data for Drawing 4 were obtained from:

<sup>4</sup>MacGregor, op. cit. et passim.

The Hon. R.W. Bonner, op. cit. et passim.

Alberta, Department of Lands and Mines, Soil Zones of Alberta, (map)



3. Access to the mineral-rich Uranium City in north Saskatchewan would be made more direct by a Waterways railway. This would encourage development of that City and its mining activities.

4. Tonnages resulting from potential resources, particularly ore deposits, along a Waterways route may be very high, thus a railway location in that area may prove to be economically successful.

5. Shipments of lead-zinc ore concentrates to Cominco's smelting and refining plants at Trail, British Columbia, would be somewhat shorter by way of a Waterways route. The trip from Pine Point via Waterways and Edmonton to Trail is about 1200 miles. The same trip by way of a Grimshaw railway would be about 1250 miles. The trip from Pine point via the P.G.E. in British Columbia would be over 1400 miles.

6. Highway transport has proved to be very competitive with railways except in respect to large bulk shipments. Therefore there may be conflicting interests if a railway line were built parallel to the existing MacKenzie Highway in the west.

7. The wide separation of the Waterways railway and the MacKenzie Highway is ideal for defensive planning.

8. There may be other factors which favour the Waterways route. It is believed that the Railway Companies have prepared reports on the possible routes for a railway to the North. These reports were not examined. A

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7(con't) (Edmonton, Hamly).

Chapman, ed. et al, British Columbia Natural Resource Conference Atlas, (Vancouver: Smith Lithograph), et passim.

Professor George H.T. Kimble, Canadian Military Geography, (Ottawa: Queen's Printer, 1949),.



request was directed to one railway company asking for information regarding the feasibility of either the east or the west route so that a more comprehensive report on the subject could be written. The Commission was advised<sup>8</sup> that these were "on a confidential basis" and therefore could not be released.

#### B. The Grimshaw Route

There was a considerable amount of information available favoring this route. The following matters appear important.

1. The Peace River Region and its resources would be most accessible from a Grimshaw railway since such a route is nearest to the center of the Natural Peace River Region. Uranium City is not in the Peace River Region. Its relation is merely from existing transport systems. A development plan should consider as most important that area inside the Natural Region, and second, other outlying areas which may be affected. Such a location would also permit the most direct extension to the great MacKenzie Valley and its potential in resources.

2. There are many valuable resources along the Grimshaw route which could be more fully developed if railway access were available. These resources could provide a diversified economy. Many of these resources are a proven fact and not mere speculation.

3. The Grimshaw area has a good labor supply, abundant raw materials, and a valuable power potential which could enable a manufacturing industry to establish in the Peace River Region if railway transport were made avail-

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<sup>8</sup> A letter to the author from C.A. Colpitts, Chief Engineer of the Canadian Pacific Railway Company, August 4, 1948.



able. There is a good source of Indian Labor available for railway construction in the North, particularly near the Grimshaw route. These Indians could also benefit from such employment.

4. Existing and future tonnage along the Grimshaw route exceed those of the Waterways route.

5. The northeast part of Alberta is already served by water transport, various roads, and a railway to Waterways. The presence of the MacKenzie Highway in the west does not appear to be, then, a strong point in favor of a railway location in the east. Existing resources in the east could probably be served best by improvements to existing transport without twisting the Pine Point railway from its natural location in the west merely to provide still another transport access to eastern resources.

6. The distance to the Trail smelter via Grimshaw may be more than a Waterways route but this ignores the development of all the other resources which will be effected by the railway location. A railway from Grimshaw to the North would have more direct access to deep-sea ports on the Pacific Coast and thereby -- world markets for all resources. This access has real significance for economic development of the North. The Peace River Region is at the center of Canada's largest land mass. Development of this area as a whole will inevitably benefit, indirectly, the vast hinterland region surrounding this core.

7. Defence in the Atomic Age cannot be effected one way or another to any real degree by the separation of the proposed railway to the North and the MacKenzie Highway. The only real safety in Canada as in other nations is to prevent an Atomic war.



8. Railways have important influences on land use and development patterns. The location of a railway must therefore consider carefully these effects. The influence of a railway on land use in the north western part of Alberta would be more in keeping with the logical land use trend there of permanent settlement and urbanization than it would with the park use of the eastern side.

9. The expected volume of railway traffic depend to some extent upon population -- the more population, the more traffic. The Grimshaw route offers better population potential. The type of traffic that will be generated there moreover appears to be superior as a traffic type to those originating along the Waterways route.

10. Construction in the Waterways area will likely encounter large areas with streams, lakes, and swamps. Large expensive bridges will be required along the Waterways route but not the Grimshaw route. The Grimshaw area and the conditions there that will be encountered by a railway are likely better known than the Waterways area.

11. It is an expected duty of a government subsidized railway to serve the most people and the most resources first. The best railway location should not be determined on just economic grounds which measure direct returns in terms of freight revenues. The Grimshaw area has a large population and many resources.

12. Communities along the Waterways route may be shortlived since they may depend upon a relatively volatile economic base. Those along the Grimshaw line, on the otherhand, offer a diversified, stable, economic base for development and settlement.



## A DISCUSSION OF SOME MOOT POINTS

## 1. The Peace River Region

Of practical importance to the Alberta Peace River area is the coordinated development of the British Columbia Peace River area and certain areas in the North West Territories. Together, these areas form a natural region. Thus the true Peace River Region extends over two Provinces and a Territory. A natural Peace River Region can be delimited to show this inter-relationship and to confine the following discussion to an area within known boundaries. The various administrative areas comprising this Peace River Region are related geographically and economically. There is, therefore, good reason to consider them jointly for broad planning purposes. Uranium City, in northern Saskatchewan, on the otherhand, lies well outside the natural Peace River Region. Drawing 2, on page 12, illustrates the criteria used to delineate the natural Peace River Region. Drawing 3, on page 11, shows the boundaries of the natural Peace River Region and its core as well as the administrative Peace River Region and its core. The delineation of these areas is discussed in the Appendix. A discussion of the regional concept is also given.

If the purpose of the railway is to reach Pine Point and to open the resources of the North, the logical route for such a railway is through the center of the Natural Peace River Region which has great resource and development potential. Drawing 3, shows the ideal location of the railway by an arrow. This central location would give the best access to all parts of this vast Region. Such a location also lies in the most direct route for extension to the great MacKenzie River Valley. A railway from Grimshaw would



# LEGEND

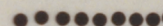
NATURAL REGION



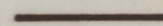
ADMINISTRATIVE REGION



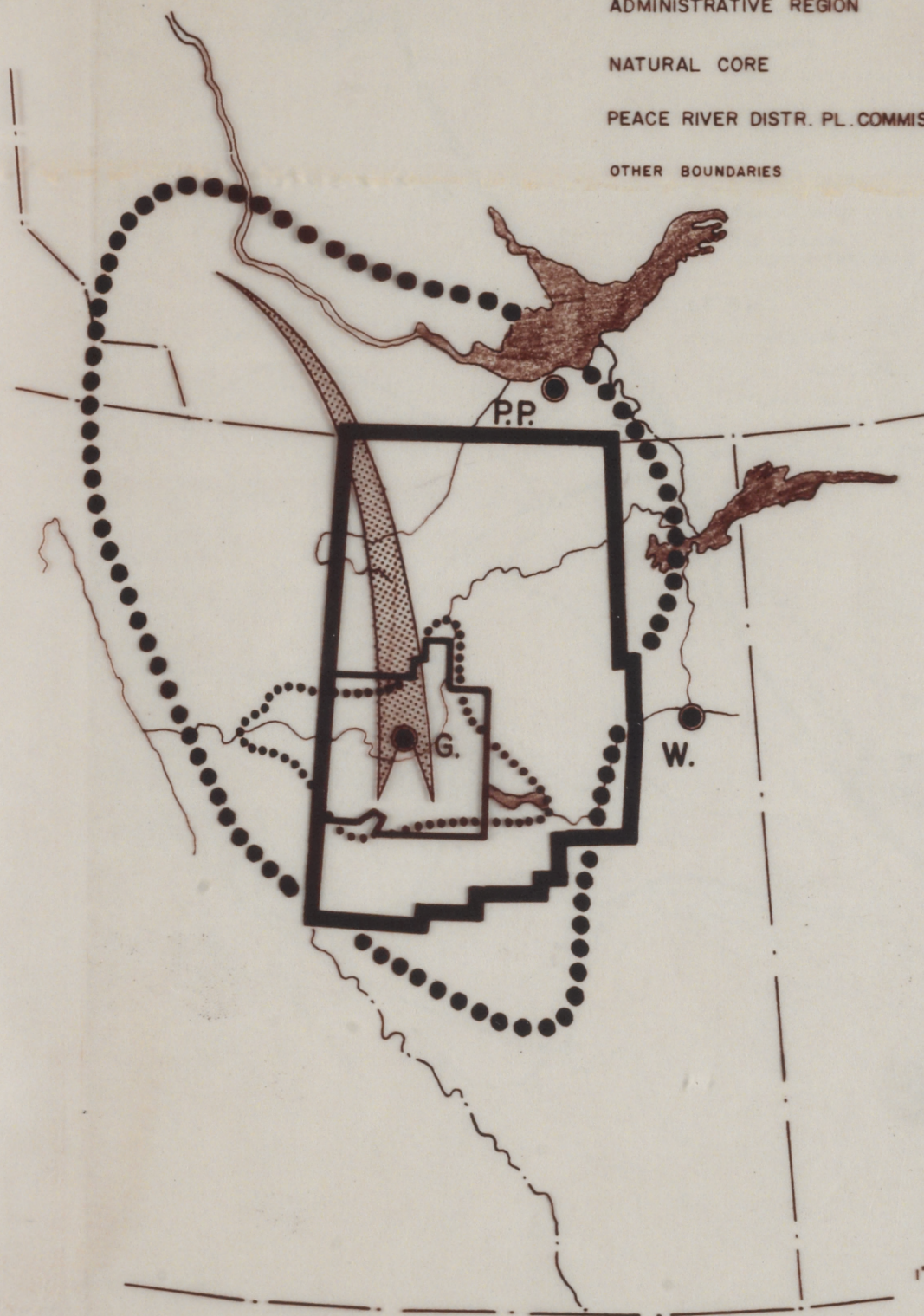
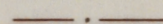
NATURAL CORE



PEACE RIVER DIST. PL. COMMISSION



OTHER BOUNDARIES



1" APPROX. 140 MILES

A RAILWAY  
TO THE  
NORTH.

NATURAL  
&  
ADMINISTRATIVE REGIONS

PEACE RIVER  
DISTRICT  
PLANNING  
COMMISSION

3

SOURCE: SEE TEXT.

## A DISCUSSION OF SOME FACTORS

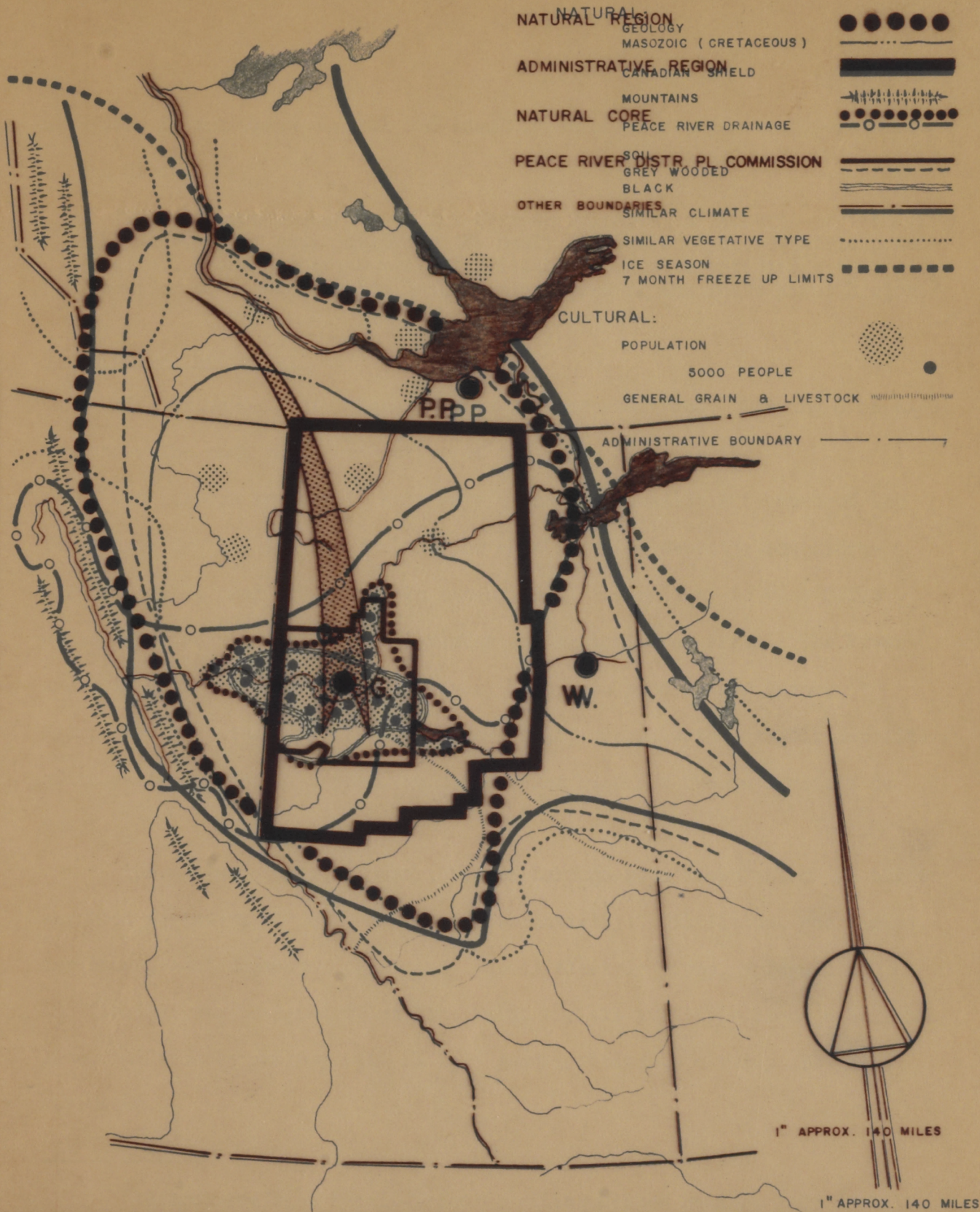
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# LEGEND

- NATURAL REGION
  - GEOLOGY
  - MESOZOIC (CRETACEOUS)
- ADMINISTRATIVE REGION
  - CANADIAN SHIELD
- NATURAL CORE
  - MOUNTAINS
  - PEACE RIVER DRAINAGE
- PEACE RIVER DISTRICT PLANNING COMMISSION
  - SOIL
  - GREY WOODED
  - BLACK
- OTHER BOUNDARIES
  - SIMILAR CLIMATE
  - SIMILAR VEGETATIVE TYPE
  - ICE SEASON
  - 7 MONTH FREEZE UP LIMITS
- CULTURAL:
  - POPULATION
  - 5000 PEOPLE
  - GENERAL GRAIN & LIVESTOCK
- ADMINISTRATIVE BOUNDARY



A RAILWAY TO THE NORTH.	NATURAL & ADMINISTRATIVE REGIONS	PEACE RIVER DISTRICT PLANNING COMMISSION	3
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LEGEND



NATURAL REGION



ADMINISTRATIVE REGION



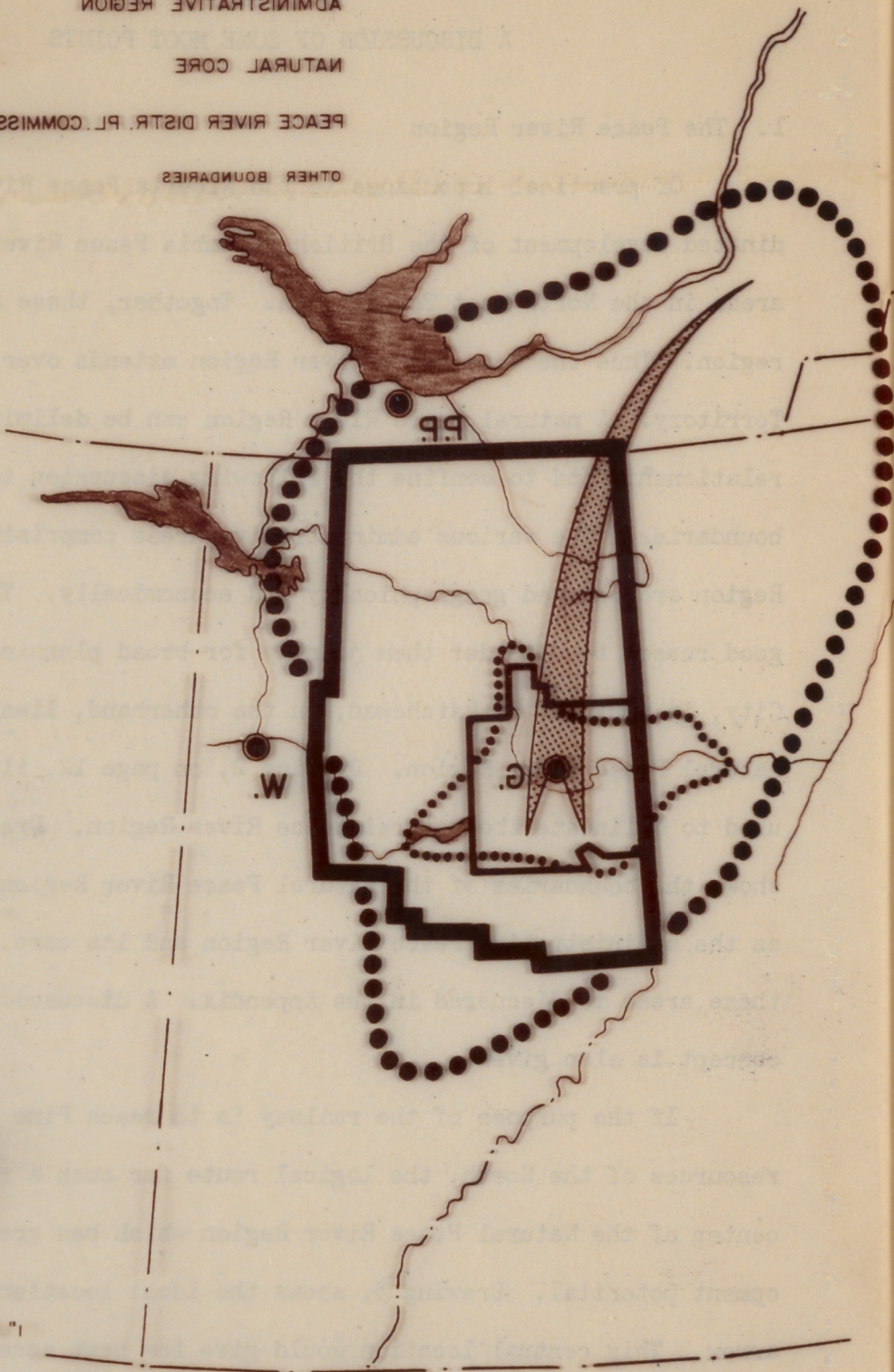
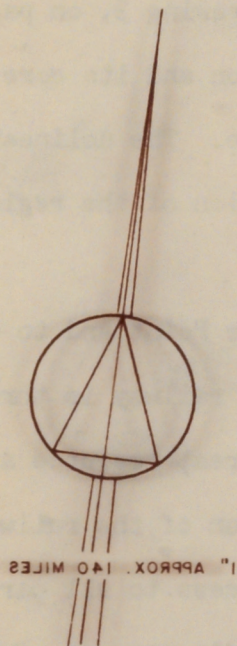
NATURAL CORE



PEACE RIVER DIST. PL. COMMISSION



OTHER BOUNDARIES



3

PEACE RIVER  
DISTRICT  
PLANNING  
COMMISSION

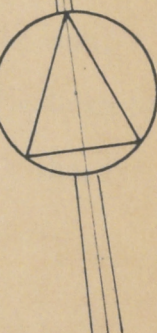
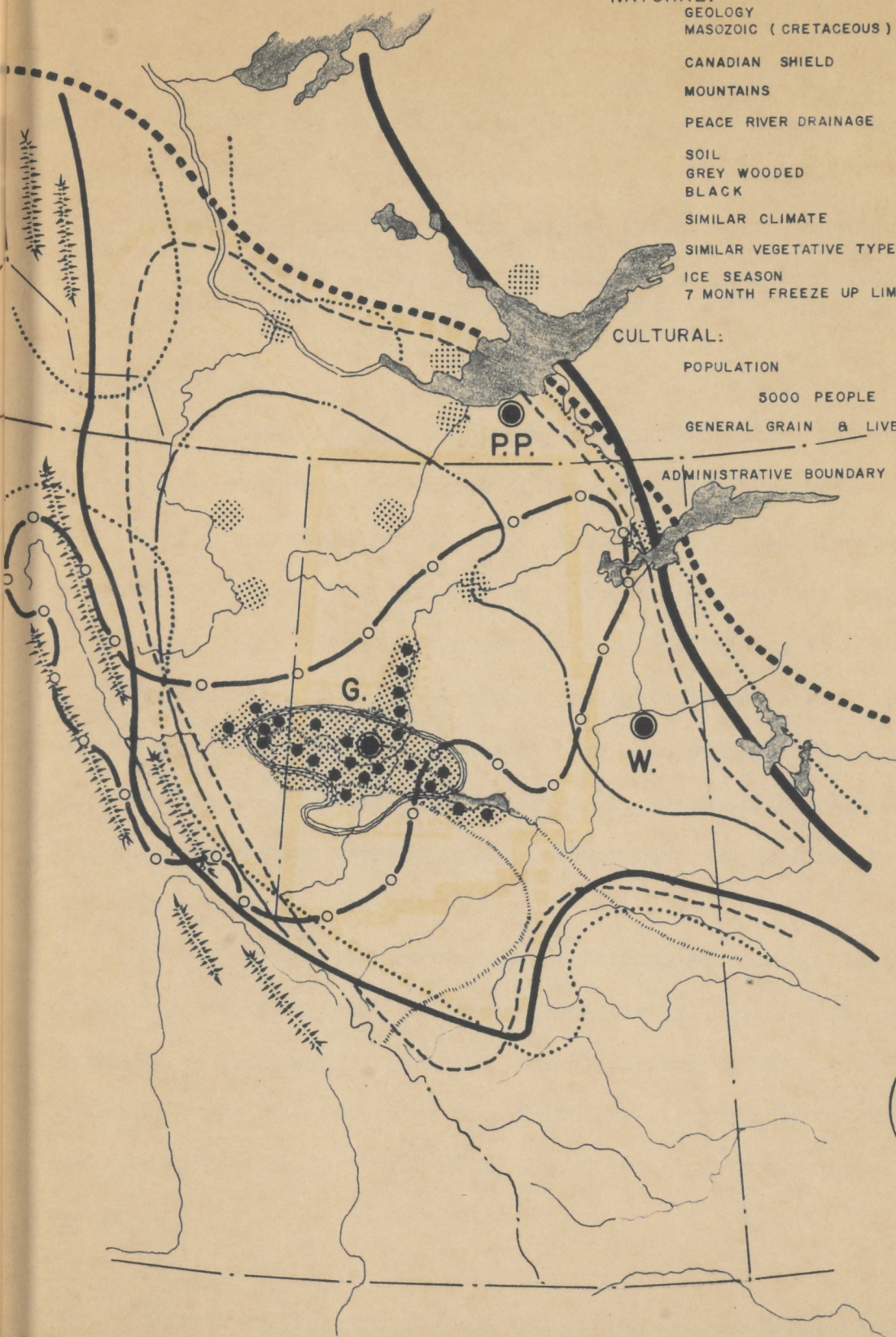
ADMINISTRATIVE REGIONS  
8  
NATURAL

A RAILWAY  
TO THE  
NORTH.

LEGEND

- NATURAL:
- GEOLOGY  
MASOZOIC (CRETACEOUS) ————
  - CANADIAN SHIELD —————
  - MOUNTAINS ————
  - PEACE RIVER DRAINAGE —○—○—
  - SOIL  
GREY WOODED ————
  - BLACK ————
  - SIMILAR CLIMATE —————
  - SIMILAR VEGETATIVE TYPE .....
  - ICE SEASON  
7 MONTH FREEZE UP LIMITS —●—●—

- CULTURAL:
- POPULATION  
5000 PEOPLE ●
  - GENERAL GRAIN & LIVESTOCK ————
  - ADMINISTRATIVE BOUNDARY ————



1" APPROX. 140 MILES



be closer to this: more central and ideal location of a major transport route to the North.

The combined resources of the British Columbia and Alberta section of the Peace River area including the newly discovered hydro-electric potential ... leads the government of British Columbia to anticipate the creation of a considerable industrial complex in the Peace River Region.<sup>9</sup>

## 2. Potential Resources

The Grimshaw route opens an area of rich resources. Drawing 4 on page 14, shows the many varied resources of the Peace River Region.

An eastern railway to Waterways already is available to much of the tar sands, the oil and gas fields, the salt and clay deposits, and hydro-electric sites near McMurray. An extension of the railway to Pine Point would only pass through marginal timber and agricultural areas. The River areas in Wood Buffalo Park do, however, have some good timber stands.<sup>10</sup> Hydro-electric sites on the Slave River, salt, gypsum, with possible deposits of lead-zinc, uranium, copper, gold, and other base and precious metals do exist.

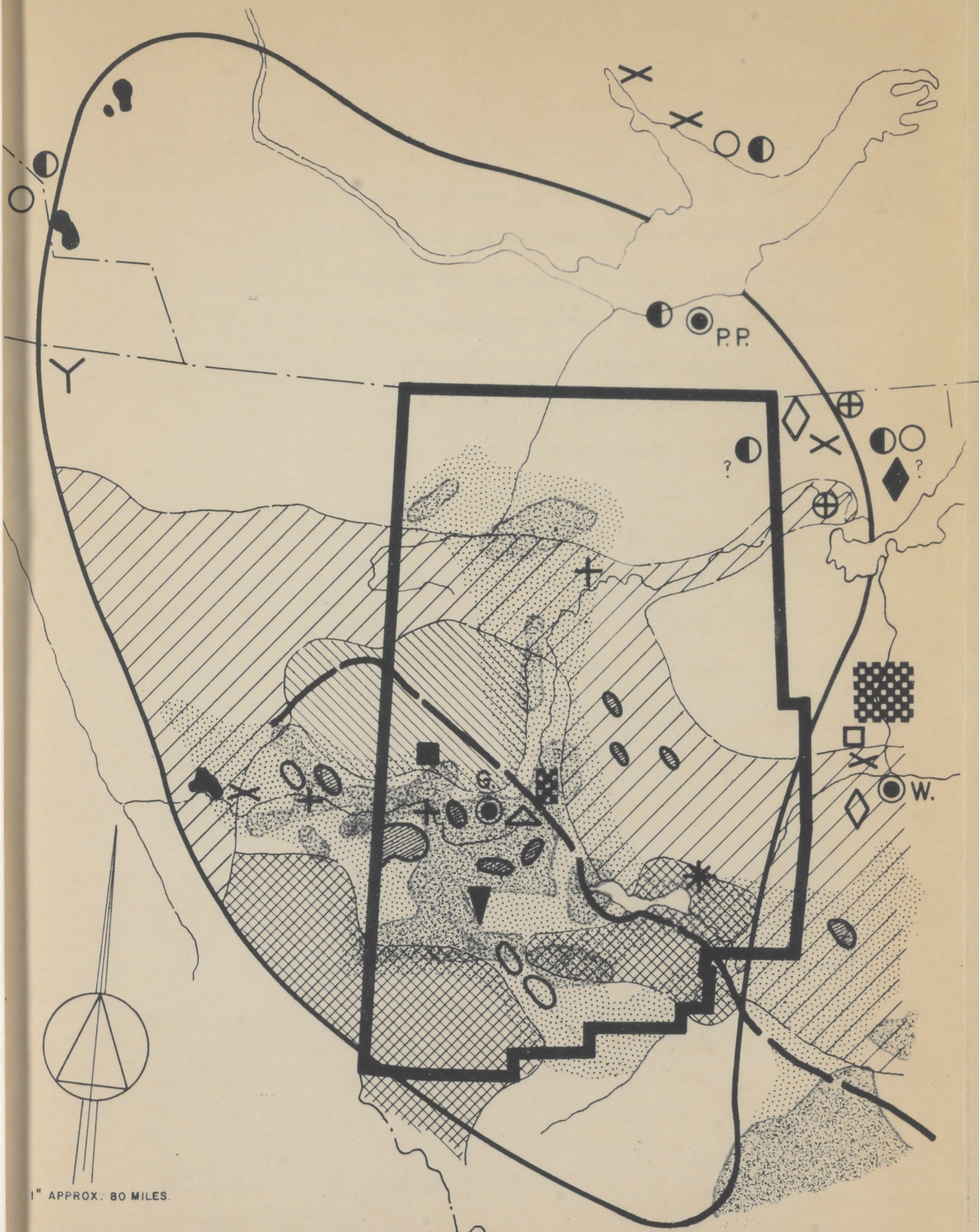
The western route, however, passes through good known stands of timber and good agricultural soils of proven productivity. Oil fields, gas fields, tar sands, coal deposits, hydro and thermal electric sites, volcanic ash, and finally, the base metals at Pine Point are all available along a Grimshaw line. A Grimshaw railway will be in a good position to develop all these resources.

---

<sup>9</sup> Grande Prairie, Herald Tribune, citing Robert Bonner, July 8, 1958.

<sup>10</sup> A letter to the author from C.L. Merrill, District Administrator, Department of Northern Affairs and National Resources, Fort Smith, North West Territories, August 19, 1958.





## LEGEND

NATURAL REGION

ADMINISTRATIVE REGION

SOIL GREY WOODED

SOIL DEGRADED BLACK

LUMBER 1500-3000 Bd.ft.

" 3000-4500 "

" 4500-6000 "

OILFIELDS & GASFIELDS

TAR SANDS

NORTH BDY. of LIGNITE & COAL DEP.

COAL

SILICA SAND

GOLD, SILVER

COPPER, LEAD, ZINC

IRON ORE

URANIUM

BENTONITE

SALT

GYPSUM

ASBESTOS

VOLCANIC ASH

POSSIBILITIES

HYDRO-ELECTRIC

THERMAL-ELECTRIC

PINE POINT, GRIMSHAW, WATERWAYS

1" APPROX. 80 MILES.

A RAILWAY  
TO THE  
NORTH

POTENTIAL  
RESOURCES

PEACE RIVER  
DISTRICT  
PLANNING  
COMMISSION

4

SOURCE: SEE TEXT.



Although the Waterways route passes through a potentially mineral-rich area, those minerals which already do not have good rail or water transportation may not be of more value than those minerals existing along the Grimshaw route. Much of the mineral development in Wood Buffalo Park along the Waterways route is speculative. The oil and gas, forest, agriculture, and hydro-electric developments near the Grimshaw route are much more a proven fact. In addition, there are other mineral deposits such as the Hines Creek iron ore deposits and tar sands, which could produce considerable railway tonnage for the Grimshaw railway. The forest cover of the northwestern part of the Province shows an extensive area of timber to the northwest of Grimshaw, running 3000 to 4500 board feet to the acre.<sup>11</sup> Farther north there is an even larger area running 1500 to 3000 board feet to the acre. And finally, at the top of the Province the stands run from 0 to 1500 board feet to the acre. North of McMurray, the proposed Waterways route would pass through limited stands of 1500 to 3000 board feet to the acre.<sup>12</sup> There are believed to be some heavy spruce stands along the river systems in Wood Buffalo Park but much of the Park is lightly wooded with open patches of meadowland.<sup>13</sup> Drawing 4 on page 14, illustrates the forest resources. The timber potential opened by the Waterways route appears to be less than that of the Grimshaw route. The area where a railway is located will have a great influence on the economic value of existing timber stands.

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<sup>11</sup> Bonner, loc. cit.

<sup>12</sup> MacGregor, et al, op. cit. p. 48, map.

<sup>13</sup> Merrill, loc. cit.



As our country grows and the demands upon its forests increase, the problems of economic inaccessibility of remote stands will lessen. To go to the Peace River District for pulp wood is, as yet, uneconomic; to go there also for minerals and power may transform the prospects.<sup>14</sup>

The soils of the northeastern part of the Province are largely unexplored; however, the soils along the Grimshaw route include the grey-wooded and the degraded black varieties. Both of these soils are suitable for mixed farming including some legumes, although some fertilizers may be required.<sup>15</sup> The soils here are proven by present use to have great agricultural potential. The area, however, is still open to a great deal of agricultural expansion.

### 3. Industry Processing Potential

" (Grimshaw route) links mineral, agricultural, and forest production with abundant cheap thermal and hydro power resources thus facilitating industrial development." <sup>16</sup> The varied resources found along the Grimshaw route together with a relatively large population give this area a real industrial potential.<sup>17</sup> There is a large labor supply to encourage industrial growth, (70,417<sup>18</sup> for Census Division 15, as shown on Drawing 4, on page 14). This industrial development could be both primary and secondary processing activities of the various natural resources. A complement of certain service industries may also locate in the Region to service these

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<sup>14</sup> The Royal Commission on Canada's Economic Prospect, Final Report, (Ottawa: Queen's Printer, 1958), p. 208.

<sup>15</sup> Department of Lands and Forests, loc. cit., (map)

<sup>16</sup> Grande Prairie, Herald Tribune, July 8, 1958.

<sup>17</sup> Bonner, loc. cit.

<sup>18</sup> Alberta, Department of Industry and Labor, Bureau of Statistics, Alberta Population, Edmonton, mimeograph, p.1.



basic activities.

It is claimed that some 77,000 people live within a radius of 110 miles of Hines Creek, all of whom would be served by the Grimshaw route. The population to be served by the Waterways or east route north of McMurray is only 879.<sup>19</sup>

Mr. Wallace, a staunch supporter of the Grimshaw route, said the Peace River District's future was tremendous, not only agriculturally but industrially.

.....  
The MacGregor Commission in its report, he charged, had completely overlooked the tremendous power potential of the Peace River Canyon.<sup>20</sup>

#### 4. Potential Tonnages

The tonnage that will be generated from the Grimshaw route will apparently exceed that resulting from the Waterways route both at the present and in the future. Table I, on page 18, compares these tonnages. From this Table it appears that the Grimshaw route will produce more tonnages because of its superior potential in forests, agriculture, and general merchandise. It is also believed that the industrial and settlement potential in the west is a factor which will further increase tonnages in favor of the west.

It has become increasingly obvious over the past decade that the United States would eventually have to look elsewhere for its basic agricultural needs.

.....  
What area can then best capitalize on this situation? It is obvious that the Peace River Country has both the acreage and some of the facilities for providing these basic agricultural products to the United States (particularly meat).<sup>21</sup>

It was emphasized by the MacGregor Commission that access to Uranium

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<sup>19</sup> Herald Tribune, loc. cit.

<sup>20</sup> Ibid, June 27, 1958, p.7.

<sup>21</sup> Ibid, July 18, 1958.



TABLE I

A COMPARISON OF TONNAGES AVAILABLE  
TO THE  
GRIMSHAW AND WATERWAYS ROUTES

Product	Tonnages at Present		Tonnages 10 Years From Now	
	Grimshaw	Waterways	Grimshaw	Waterways
Minerals (including oil and gas)	182,000	232,000	525,000	531,000
Forest Products	125,000	50,000	465,000	105,500
Agricultural	12,000	1,000	325,000	16,250
Merchandise	116,300	81,630	300,000	187,550
Fish	4,000	4,000	5,000	5,000
TOTAL	439,300	368,630	1,620,000	845,300

Source: British Columbia, Department of Trade and Commerce, An Economic Appraisal of the Proposed Rail Routes to Pine Point, North West Territories, (A brief presented to the Federal Government by Honorable R.W. Bonner, QC, in Ottawa, June 23, 1958), Table I and II.



City minerals in north Saskatchewan was a good reason why the railway should be built in eastern Alberta. Uranium City is not in the Peace River Region but it ships ore by boat along Athabaska Lake and up the Slave River to Waterways. In the winter a road is available from the Lake to the railway.<sup>22</sup> Table I, on page 18, shows that the tonnages expected from Uranium City, moreover, are not high. From Drawing 1, on page 4, moreover, it appears as though the Waterways route would still be as far from Uranium City as the McMurray Railway terminal is today. Such a railway does not appear likely to improve access to Uranium City since by any route they would still depend on similar distances for water transportation. The railway distances would in fact be very much increased if access had to be made to the new terminal on the Peace River rather than at Waterways.

##### 5. Transportation in Northern Alberta

The transportation system in northern Alberta is shown on Drawing 1, on page 4. Although not well-known, it is interesting to note that transportation facilities do exist in the northeastern part of Alberta. Uranium City, for example, has access to good water transportation to the railway at Waterways as described above. The Inland Water Transportation System as a whole is discussed and described in a recent survey of Alberta.<sup>23</sup> Thus, some water transportation is available to this part of the Province. It also appears that a highway is under construction in the Wood Buffalo Park.<sup>24</sup>

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<sup>22</sup> From a map of roadways in Alberta from the Department of Highways, Edmonton, August, 1958.

<sup>23</sup> Calgary Power Limited, Alberta, Province of Opportunity, A survey of resources and economic possibilities, (Calgary, 1958), p. 103-09.

<sup>24</sup> MacGregor, op. cit., p. 95.



Another was considered by the MacGregor Commission. "It would seem sensible to make sure that two large bridges are built with highway traffic decks."<sup>25</sup>

From this we can conclude that a railway from Waterways may eventually have competition from a highway that the Grimshaw route would have to contend with now in the MacKenzie Highway, if this is a competitive factor at all. The railway to McMurray could easily be extended a few miles to tap all of the Athabaska oil sands, clays, and salt deposits and other resources in that area if the economics of their removal should warrant such an extension. This railway and another extending from Grimshaw to Pine Point were illustrated on a map.<sup>26</sup> At the same time a railway line could perhaps be extended even from Pine Point to any mineral deposit discovered in the Park which was not accessible to the previously mentioned transportation systems, if these deposits again prove economic to develop. In any case a railroad could perhaps be paid for by the Company which is concerned with the exploitation of a mineral deposit.

## 6. World Markets

The great wealth of the natural Peace River Region and the additional resources of the North West Territories have access to a deep-sea port at Vancouver, Squamish, and Prince Rupert by way of the Pacific Great Eastern.

Since 1912, when the construction of a railroad into the Peace River area was first suggested, there has been a growing demand for a Pacific outlet. This demand is as evident today as during the early period of settlement. The proposal is that a connection be made with the Canadian National Railway at some point in British Columbia.<sup>27</sup>

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<sup>25</sup> Ibid,

<sup>26</sup> Minister of Citizenship and Immigration, Canada -- 100 New Resources. (Ottawa: Queen's Printer, n.d.)

<sup>27</sup> Alberta, Department of Economic Affairs, Economic Survey of the Town of Peace River, (Edmonton: mimeographed, Sept. 1951), p.6.



The concentration of manufacturing facilities, transport facilities, and population in the metropolitan area of Vancouver is a real asset to the North. This has considerable significance to the economic development of the North. Access to a deep-sea port opens resources of the Peace River Region and the North West Territories to world markets. A railway at Grimshaw would be nearer to any sea port on the western seaboard. The fact that railway shipments would be going through B.C. rather than Alberta will not be unfavorable for Alberta. The fact remains that Alberta does not have any sea port and any access to one must be through another province, territory, or nation. At the same time economic access to a sea port will hasten the development of resources in Alberta by making them available to world markets. This means added prosperity for the Province and Canada which could not be achieved to the same extent without this access to a deep-sea port.

Drawing 5 on page 22, illustrates the relation of the Peace River Region to Canada and world trade. The Region lies at the center of Canada's largest land mass. Development here would strengthen the very core of Canada. It would also benefit Canada since any exports or imports must cross over the surrounding Provinces to reach this central Region. Exports could extend to world market as shown -- through the Vancouver and Prince Rupert harbors to the west, through Aklavik to the north, (or perhaps Alaska), through the St. Lawrence River System in eastern Canada, and through various points southward in the United States.

A railway to the North in Alberta will be the pioneer railway into Canada's northern frontier. Drawing 6 on page 23, illustrates the major railway system as it now exists in Canada.<sup>28</sup> The major railway lines are all

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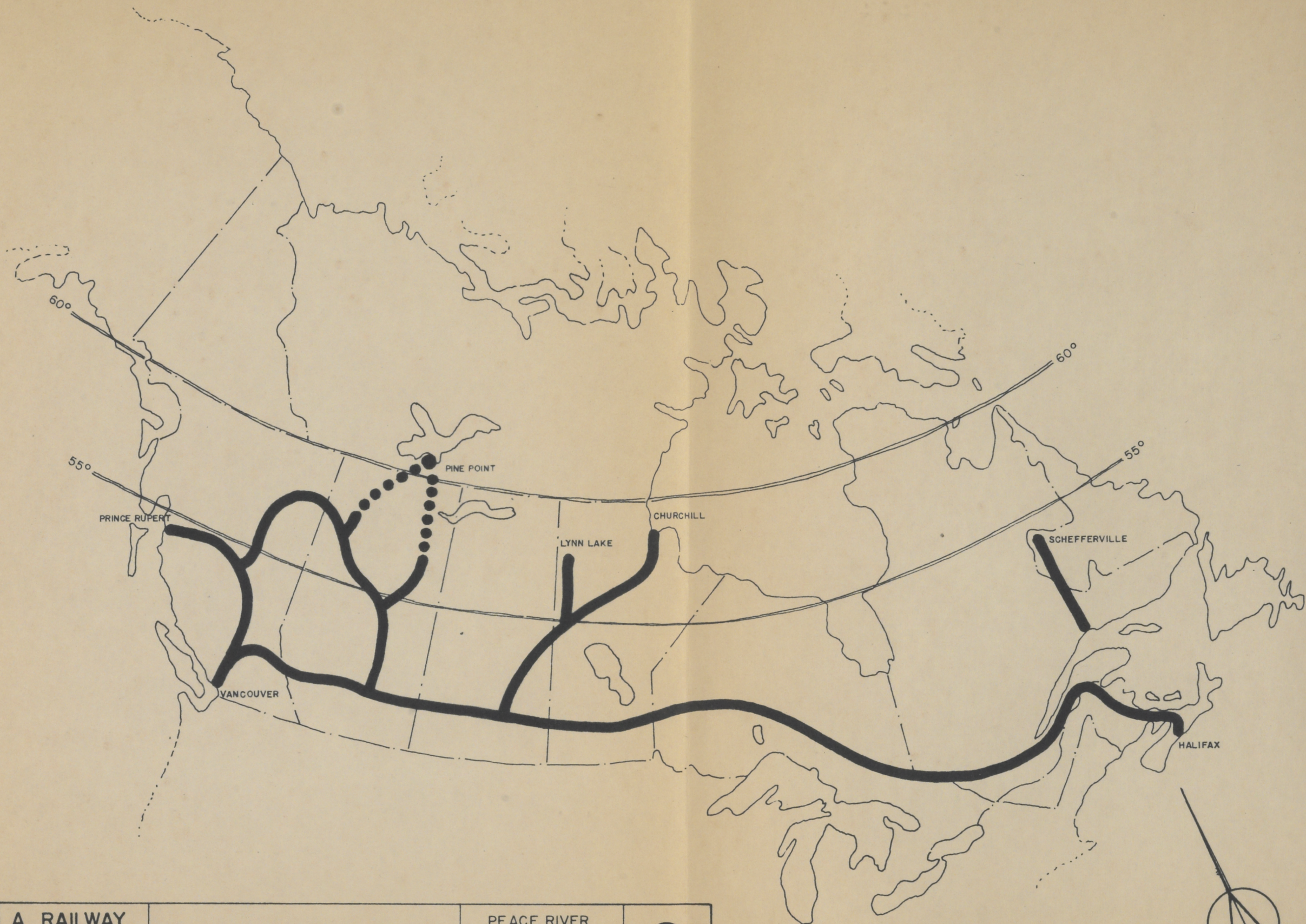
A RAILWAY  
TO THE  
NORTH

OPENING THE NORTH  
TO  
WORLD MARKETS

PEACE RIVER  
DISTRICT  
PLANNING  
COMMISSION

5





A RAILWAY  
TO THE  
NORTH

EXISTING RAILWAYS

PEACE RIVER  
DISTRICT  
PLANNING  
COMMISSION

6



located in the southern part of Canada. There is no railway extending very far into the northern part of Canada. In eastern Canada a railway in Labrador runs to Schefferville which lies below the 55th parallel of latitude. In Manitoba a railway runs to Lynn Lake and Churchill, both of which are located below the 60th parallel. The proposed railway to Pine Point will extend well above the 60th parallel. Two hundred miles further north than any other railway in North America.

#### 7. Wood Buffalo Park

Wood Buffalo Park in the northeastern part of Alberta is an asset to the Province as a game reserve and as a natural park. This Park was not provided as an area for future settlement. Any development resulting from a railway through the Park would be contrary to the Park's intended function. It may, however, be possible, if permission is granted, to develop some of the natural resources in the Park and still maintain the primary function of the Park. But such exploitation would only be warranted in a Park area if the value of the resources is sufficient to pay for the cost of their development including a railway or other method of transport without being subsidized by government funds.

A railway which is being partly financed by government funds must consider more than just possible mineral development as a determining factor in deciding upon a railway location. Any railway will encourage settlement. Settlement in Wood Buffalo Park is not practical. This area should be maintained in its virgin state and, if developed at all, should be for recrea-

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<sup>28</sup> From Department of Mines and Technical Surveys, Canada's Mineral Resources, Edmonton, 1957.



tion and park activities primarily. Therefore, a railway location in the east would lose one of its most important social influences for the North, that is, encouraging permanent development and settlement.

## A DISCUSSION OF SOME PLANNING PRINCIPLES INVOLVED IN THE RAILWAY LOCATION

### 1. Railways and Planning

It should be realized that the location of this railway is not only important as a means of transportation but that it also is a powerful tool for planning. Through careful planning of the transportation system of northern Alberta, it is possible to exercise direct influence upon physical, social, and economic aspects of regional development. The establishment of a desirable settlement pattern can be secured through sound transportation development. The need of coordinating the planning of transportation facilities with the planning of land utilization and zoning is obvious. Only on a frontier such as the Peace River Region is it possible to even consider that the location of a railway into an undeveloped area could be an instrument of implementation for a regional plan of land use and development.

"A land use plan can not be developed independent of transportation plans any more than transportation planning can proceed independent of land use planning!"<sup>29</sup>

Railways are still important as a transport system today.

Railroads, which first made their appearance in 1829, comprised the most important transportation system despite the competition from other forms of transportation. Railroads still carry more passengers and more tons of freight between cities in the United States than any other trans-

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<sup>29</sup> F. Stuart Chapin, Jr., Urban Land Use Planning, (New York: Harper Brothers, 1957), p. 256.



portation system.<sup>30</sup>

Because of their importance, railways can effect development in many ways. "Settlement and economic development of frontier regions were pushed forward by the railroads, bringing the settlers and their building materials and machinery, and transporting their produce to eastern markets." <sup>31</sup> Although this is not as true today as it was, the effect of railroads is still important. One of their direct influences on settlement arises from the nature of their construction which requires yards, scalehouses, engine houses, turning facilities, fuel-oil houses, livestock terminals, produce terminals, freight houses, passenger stations, line maintenance houses, engine repair stations, and divisional headquarters. Such points have often, in the past, resulted in settlement which have become great cities of the world. "Large cities owe their very existence to the railroads."<sup>32</sup>

"Cities are direct outgrowths of man's capacity to move over the earth, the food, fuel, fibers, and construction materials intimately associated with his life. That is, cities are the creatures of transportation, and the works which make transportation possible. It is axiomatic that a major route crossing focus or terminus eventually produces an urban settlement. It follows that any major change either in the technique of transportation, or in the location and capacity of transportation arteries, must have some urban effects. This may be one of altering the size, character, or articulation of existing towns and cities, or it may give use to completely new urban concentrations."<sup>33</sup>

It is important to remember that if there is to be a great city in

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<sup>30</sup>The international City Manager's Association, Local Planning Administration, 2nd edition, (Chicago: Edward Bros. 1950).

<sup>31</sup>Bonner, op. cit. p. 267

<sup>32</sup>Ibid, p.144

<sup>33</sup>Edward A. Ackerman, Urban Land Institute, Technical Bulletin 31, Washington, 1957, I The relationship of Highways to the Pattern of land use, p. 7.

Because of their importance, railways and other development in many ways. "Settlement and economic development of frontier regions were hastened forward by the railroads, bringing the settler and their building materials and machinery, and transporting their produce to western markets." Although this is not as true today as it was, the effect of railroads is still important. One of their direct influences on settlement arises from the nature of their construction which requires yards, engine houses, turn-out facilities, fuel-oil houses, livestock terminals, produce terminals, freight houses, passenger stations, line maintenance houses, engine repair stations, and division headquarters. Such points have often, in the past, resulted in settlement which have become great cities of the world. "Large cities owe their very existence to the railroads."

"Cities are direct outgrowths of man's capacity to move over land easily, cheaply, fast, light and convenient means. The capacity of man to move over land is the basis of his life. That is, cities are the result of transportation, and the work which transportation performs. It is extremely hard to make moving from one country eventually two does an urban settlement. It follows that any major change either in the technique of transportation, or in the location and capacity of transportation facilities, must have some effect on cities. This may be one of altering the size, character, or distribution of existing towns and cities, or it may give rise to completely new urban concentrations."

It is important to remember that if there is to be a great city in

30 The International City Managers' Association, Local Officials' Journal, 1930, 1931, and edition. (Chicago: Board Press, 1930).

31 Hansen, op. cit., p. 347

32 Ibid., p. 344

33 Edward A. Schattschneider, Party Government, 2nd edition, 1935, p. 10. Washington, 1935. The relationship of the party to the system of land use.

the North its location and development will be greatly influenced by the location of this proposed northern railway. A sound transportation system for the Peace River District and northern Alberta calls for the best possible coordination of the several forms of transport -- railroad, water, air, highways, streets, and even transit facilities. Railway facilities like all other means of transportation, bear important relationships to practically all other elements of community and regional development and should be integrated with them.

## 2. The Economics of Railway Location

The railroad engineer considers the merit of a railway location largely in economic terms. An economic location is often described as that which gives the best economic combination of costs and operating expenses with the estimated traffic. Principles which may be used in determining this economic combination could be as follows:

- 1) The estimated cost of the line,
- 2) The annual interest charge on capital invested,
- 3) Estimated annual traffic in tonnages with due consideration for the number of trains required to handle it,
- 4) The cost of handling the traffic,
- 5) The effect of future changes in traffic. <sup>34</sup>

A railroad is concerned, not only with gross tonnages but also with the nature of the traffic encountered. The nature of the traffic varies the net return derived from transporting various commodities. Perhaps the cost of handling bulk ore shipments, for example, would be far less than that encountered for shipping an equal tonnage of livestock. As a further example, the number of trains needed to serve as passenger service may be far more than

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<sup>34</sup> Robert W. Abbet, American Civil Engineering Practice, Volume I, (New York: Wiley, 1956) p. 6-93.



those needed to transport a quantity of ore that would yield the same net return in freight charges. It is evident then, that gross tonnages alone do not indicate which of the proposed railway routes is the most favorable. The nature of the anticipated traffic must also be examined. Tonnages that consist chiefly of ore deposits, such as the Waterways route offers, perhaps are an ideal type of traffic.

In general terms revenues depend upon the volume and character of the traffic originating in the territory served. Both present and future population, as well as the nature and tonnage of traffic however, has a bearing on the economic success of a railway location. The following equation <sup>35</sup> illustrates this relation:

$$T = p(x)$$

Where T - ratio of future to present traffic  
 p - ratio of future to present population  
 x - a value depending upon the nature of the commodity and the territory,

According to Hennes and Ekse, x is 2 for farm products, 5 for mine products, 4.3 for forest products, and 7.1 for manufactures.<sup>36</sup>

From this relation it can be seen that a railway location near a populated area and particularly where population is likely to increase will produce more tonnages than one located in an area which is relatively devoid of population (assuming other factors are equal). The Grimshaw route provides this population but the Waterways route does not. Mine products as a type of traffic are rated highly and farm products on the otherhand run very low.

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<sup>35</sup> Robert G. Hennes and Martin J. Ekse, Fundamentals of Transportation Engineering, (New York: McGraw Hill, 1955), p. 274.

<sup>36</sup> Hennes, Ibid



These factors favor the Waterways route since it has considerable mineral potential and a limited agricultural potential. On the otherhand the industrial potential along the Grimshaw route could generate manufactured traffic which has the highest traffic index of all the goods quoted. The forest products that could result in traffic along the Grimshaw route are also rated highly. The traffic goods that may originate along the Grimshaw route as types of traffic contributing to the economic success of a railway appear more favourable then than those along the Waterways route. From the above formula the Grimshaw route will generate far more railway traffic than Waterways.

The cost of constructing a railway is an important factor in any railway location. These costs are effected in many ways. Excessive railway distance, curvature, and grade, all add to the cost of the construction. Washouts, landslides, snowslides, frost heaves, and subsidence add to maintenance costs. Availability of suitable subgrade, sub-base, and base materials as well as the proximity of suitable tie-stands of timber are factors effecting the costs of railway construction. Of all the natural conditions that do affect costs of railroad construction, drainage characteristics are likely the most important. The McMurray route must traverse many lakes, streams, rivers, and marshlands. The Grimshaw route has far fewer lakes and less marshland. It offers some well drained areas for a railroad, particularly in the Hay River area and in the Caribou Mountains.<sup>37</sup> Costs according to the MacGregor Commission are about the same for the Waterways and

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<sup>37</sup> From the Department of Mines and Technical Surveys, Surveys and Mapping Branch, National Topographic Map Series, Peace River, Fort Vermilion, Providence, Hay Lake, Bison Lake, Great Slave Lake Sheets (various dates but



the Grimshaw route. However conditions that will be encountered along the Grimshaw route are better known since the MacKenzie Highway has already been built in that general area. Soil drainage characteristics and climatic factors have been studied more along the Grimshaw route because of the road construction and settlement in that area. The Waterways route however, may encounter conditions which are not known to exist from just a location reconnaissance. (The Railroad Companies have presumably made some type of field survey but the extent of this is unknown.) The very fact that a number of bridges will be needed along the McMurray route (Peace and Athabaska River) indicate the need for a very careful survey since bridges are a major consideration in overall construction plans. An under-estimate in the number of bridges needed, the cost of their construction, or in the budget allowance for a bridge failure, (e.g. Second Narrows Bridge collapse in Vancouver, June, 1958, and the Peace River Bridge, in 1957), may very well increase the cost of a Waterways route far above that of a Grimshaw line. Conditions along the Waterways route do not appear to be as well understood as those along the Grimshaw route. For this reason the cost estimate for a Waterways route may be difficult to estimate.

The presence of the MacKenzie Highway near the Grimshaw route may be some advantage during the construction of a railway in that area. Men, materials, and equipment for the railway could be moved over this road to various points of construction along the route. Several work parties could then work at different points along the line, each with reasonably good access to supply centers and communities. This advantage could hasten and improve the

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the most recent available copies were used).

Department of Mines and Resources, Maps Surveys, and Engineering, Wood Buffalo Park and McMurray Sheets.



efficiency of construction operations.

### 3. Transportation and Public Finance

The cost of the proposed railway is reported to be about 70 million dollars.<sup>38</sup> This cost will likely be provided from C.P.R., C.N.R., and government sources.<sup>39</sup> It is inevitable that governments must share a substantial part of the cost of any proposal for the construction of a major railway. This is done by way of land grants, subsidies, financing through the government operated C.N.R., or any direct allocation of funds. When an expenditure of public funds is contemplated, the problem of locating a railway route becomes not only one of railway economics, but it also becomes a matter of public concern. The people are contributing to the cost of the construction of the railway through their tax contributions to the various levels of government.

There are many functions of government which are not economic in the sense that an expenditure will automatically create a directly comparable revenue. However, to deny that public functions such as education, social welfare, and national defence for an example, are necessary services because they do not pay for themselves, would hardly be acceptable in a democracy as we know it in Canada. The social benefits of such government functions should be evident. However, their indirect economic effect<sup>on</sup>/prosperity in Canada, if it could be measured, would certainly be an overwhelming justification of such expenditures. In the same way, expenditures on roads, whether they be for trains or automobiles, is a government function not

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<sup>38</sup> Bonner, op. cit. p.1.

<sup>39</sup> Spring Speech from the Throne, House of Commons, Ottawa, 1958.



primarily intended to yield a direct revenue. If all roads had to pay directly for their construction it would be necessary to have toll gates erected on them.. The administrative impossibility of doing this coupled with its choking effect on traffic movement make such a suggestion unacceptable. In spite of the great cost of transport systems they are essential to our local provincial, and national economy. Only a government can make such large long term investments in its people and its resources. The construction of a railway to develop and settle an area for the good of Albertans and Canadians is therefore, an accepted function of government. To defend a Waterways or a Grimshaw route on the basis of railroad economics in measures of tonages and costs is therefore, a denial of one of the accepted functions of government. Briefly this function is to build roads where they will benefit the most people either locally, provincially, or federally.

Transportation facilities are vital to economic development. Upon their availability and relative cost depend effective utilization of scattered resources, specialization of production, and economical distribution of goods. Expenditures on transportation facilities are strategic contributions to economic progress.

By creating this highway system the federal, state, and local governments have made a major, though indirect, contribution to the nation's economic growth.<sup>40</sup>

In any event, the primary purpose of the railway to the North has been reported to be to transport Pine Point ore and to provide an extension to the North which may eventually reach the far corners of the N.W.T. These major objectives will be achieved by either route. The choice of an east or a west route is therefore, secondary to the overall objectives but nevertheless

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<sup>40</sup> William J. Schiltz and C. Lowell Harris, American Public Finance, 6th edition, (Englewood Cliffs, New Jersey: Prentice Hall, 1956), p. 45-79.

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 ...objectives will be achieved by either route. The choice of an east or  
 ...west route is therefore, secondary to the overall objectives but nevertheless

important because of its indirect effects.

#### 4. Encouraging Sound Development

A settlement which depends upon a single depletable resource whether it be lead-zinc, salt, gypsum, or any other material, faces an uncertain future. Such settlements could develop along a Waterways route to Pine Point. These communities may therefore, be shortlived. There is no mineral deposit which will last forever and only unusual deposits last for even a generation. In planning the North we must surely think of the future, not as a series of ghost towns, but as a process of healthy settlement which will gradually spread through the entire north to utilize the millions of acres of empty land and the riches in resources this northern vastness surely holds.

Canada, as a young nation, has a history marked with the incalculable wastes of ghost communities resulting from the depletion of the single resource upon which their economy was based. Surely, with such a history, we should try to avoid the waste of more dead cities, by carefully planning the economic structure of new communities and regions.

The resource potential in Wood Buffalo Park consists largely of base metals. The minerals at Pine Point are also base metals -- lead and zinc. To hinge the location of a publicly financed railway on the possible development of mineral deposits of indefinite value and size is an undertaking of some risk. This is particularly true where base metal deposits are found, since these metals suffer from great fluctuations in their market price. Base metals depend largely on world markets which cannot be controlled. To-day the Consolidated Mining and Smelting Company of Canada (Cominco), whose operations depend particularly upon lead-zinc ore deposits, is suffering from



an economic recession. The valuation of its common stock has dropped more in recent years than ever before in its entire history. Markets have been so poor that Cominco had closed some of its mine operations such as Tulsequah. The Cominco Annual Report itself paints a dark picture for 1958 operations.<sup>41</sup> Limited world demand had forced Cominco to stockpile much of its lead and zinc. It would therefore, appear far safer for Canada to encourage, by way of a railway location, a diversified stable northern economy which may include base metals as just one resource of many to be encouraged and developed by the new transportation. Such a diversified development will be far more stable and the risks will be far less. A government must consider the development of all its resources.

To do this it is important then that the economic base of the community or region be diversified and broadened to withstand the seasonal and cyclical fluctuations which harrass all single enterprise economies. An economic base which includes, for example, a sustained yield system of forest and agricultural development as well as other permanent types of industry will be stable. A community depending upon this base for its major employment will likely survive and grow. A diversified base consisting of agriculture forestry, manufacturing industry, and many minerals is therefore desired in the economic structure of settlement. Settlements along the Grimshaw route offer this diversification, but the Waterways route cannot provide such security to its community development, and any settlement there may well end in a series of ghost towns.<sup>42</sup>

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<sup>41</sup>R.E. Stavert, President, Consolidated Mining and Smelting Company of Canada, Limited, Report to Stockholders, 1958, (Montreal: Annual Meeting), p. 4,5.

<sup>42</sup> University of British Columbia, A Regional Planning Analysis of a Single Enterprise Community of Settlements, A Thesis, June 1958.



## 5. A Comprehensive Plan for the North

The past year in Canada has seen a general recession in business activities. National income has dropped. Unemployment has resulted. To increase national income, investment is required. The federal government has proposed as a fiscal policy of investment, a number of public works programmes, such as opening up and developing the North. Thus a railroad from Grimshaw will serve its part in this broad plan by relieving unemployment. This is a service to Alberta and all Canada.

The area through which either of the railways will travel has a good population of native Indians. These people could provide a good source of labor for the construction of a railway. The Indians could benefit from such employment. The fur trade and other Indian activities have not given the Indians the support they need. A nearby source of employment will likely be welcome. The Indians are located as shown on Drawing 7 on page 36.<sup>43</sup> Here each dot represents about 100 Indians, half of which are Metis Indians.<sup>44</sup> The Grimshaw route would be accessible to more of these Indians than would the Waterways route.

The development of the North on any scale that will yield the most good to Canada must be on a comprehensive plan. Piecemeal development is ineffective unless it is a part of some overall plan of development. Experience in the Tennessee Valley Authority (TVA), demonstrates that development of all resources by an overall coordinated plan is an effective policy

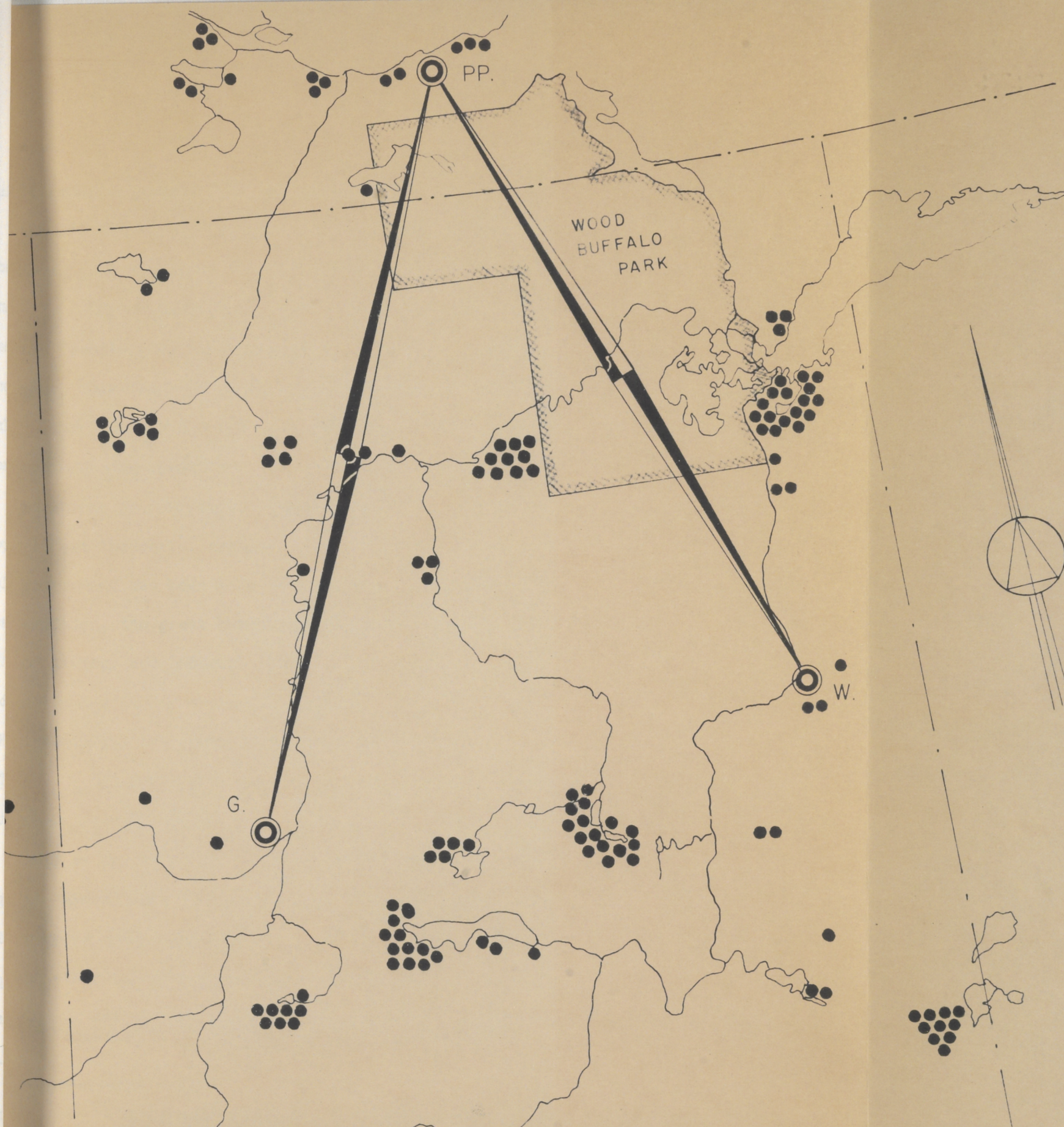
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<sup>43</sup> The population and location of reserve Indians was obtained from mimeographed forms published by the Indian Affairs Department, Edmonton, 1956.

<sup>44</sup> From an interview with the Indian Affairs Department in Edmonton, August, 1958.

The past year in Canada has seen a general recession in business activities. National income has dropped. Unemployment has risen. To increase national income, investment is required. The federal government is proposed as a fiscal policy of investment, a number of public works programmes, such as opening up and developing the North. This a railway to Grimsby will serve the part in this broad plan by relieving unemployment. This is a railway to Alberta and all Canada. The area through which the railway will travel has a good population of native Indians. These people could provide a good source of labour for the construction of a railway. The Indians could benefit from employment. The fur trade and other Indian activities have not given the Indians the support they need. A nearby source of employment will likely be welcome. The Indians are located as shown on Drawing 1 on page 25. Each dot represents about 100 Indians, half of which are Metis Indians. The Grimsby route would be accessible to more of these Indians than would the Waterways route. The development of the North on any scale that will yield the most good to Canada must be on a comprehensive plan. Piecemeal development is ineffective unless it is a part of some overall plan of development. Experience in the Tennessee Valley Authority (TVA), demonstrated that development of all resources by an overall coordinated plan is an effective policy.

2. The population and location of reserve Indians are obtained from the figures furnished by the Indian Affairs Department, Edmonton, 1956. 3. From an interview with the Indian Affairs Department in Edmonton, August, 1956.



A RAILWAY  
TO THE  
NORTH

INDIAN SETTLEMENTS

● 50 INDIANS

PEACE RIVER  
DISTRICT  
PLANNING  
COMMISSION

7



of resource development. It may be well to consider here the experience of the TVA and other similar projects when plans for opening up the North and developing resources are being considered by the Federal Government.

The organization of the TVA in the United States has been through the President who appoints three Directors to a board; one of which is Chairman. This board appoints a general manager and a staff of engineers, agriculturalists, foresters, and other professional men. No special legislation has ever been required. The TVA has used effective techniques to develop resources in a depressed region. Today the Tennessee Valley is one of the richest industrial regions of the United States. The money spent by the government has been more than recovered by tangible assets and income. In addition, the great benefits from flood control, navigation, higher standards of living, and industrialization have produced an indirect return which, if estimated in dollars, would probably prove to be one of the most productive investments ever made by a Federal Government.

The experience of the TVA may very well be worth considering in any plans for the undeveloped area of Canada's North. A single railway should only be one part of a major development programme under a board and a staff of experts responsible to government. The possibilities of such a multi-purpose development scheme in the North may yield a return to Canada which no other approach could ever hope to achieve.<sup>45</sup>

Increasing attention is being paid to government spending as a factor contributing significantly to economic growth....

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<sup>45</sup> Techniques of Regional Planning in the Tennessee Valley, An essay for the Department of Planning at the University of British Columbia, May, 1958.



The categories of government spending that contribute most to economic growth are (1) development of natural resources ....

Government capital outlays for development of natural resources as the TVA (Tennessee Valley Authority), and other river developments ... are direct implementation of economic growth. <sup>46</sup>

## CONCLUSIONS

From this brief preliminary analysis it appears that the Grimshaw route has some very distinct advantages as a site upon which a railway to the North could be located. It is believed that:

- 1) A railway to the North is needed to develop this area for the good of Alberta and Canada. Any proposal to secure this end should be encouraged.
- 2) A fiscal policy which will increase national income and employment by providing a works project in northern Alberta is of benefit to this Region.
- 3) A railway location for the North should be a part of a transportation plan for the entire North. This transportation plan should also be established in relation to some broad general plan of future land use. The experience of the Tennessee Valley Authority and other great projects, indicate that Canada would be very wise to utilize the experience of these regional projects in its plans for northern development.
- 4) Information concerning the location of the railroad should be made available for examination by the public in the event that there are some important considerations which this brief survey and other surveys have overlooked but could be vital in selecting a final route.

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<sup>46</sup> Schultz, op. cit. p. 79.



5) The Grimshaw route on the basis of this analysis would produce more economic and social good for the majority of people in Alberta and Canada than would any other route. The ultimate objective in any development or planning must be to create a better environment for mankind as a whole. The Grimshaw route will likely come closest to this end.

6) There has apparently been no comprehensive analysis of the feasibility of any railway route to the North by a competent professional staff. Such a staff should include regional and community planners, transportation engineers, lawyers, economists, and experts on the various resources to be developed. "One of the greatest obstacles to true economy in government is the lack of reliable criteria ...." <sup>47</sup>

Surely a decision to locate a railway must be based upon the very best professional knowledge on the subject. It is therefore, on this foundation that a route for a railway to the North should be selected.

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<sup>47</sup> Schultz, op. cit. p.73.



## APPENDIX



## EXPANDING THE BOUNDARIES OF THE PEACE RIVER DISTRICT

### 1. The Concept of Regionalism

The term 'region' is a word which is used to mean a multitude of things to the many people who use it. To a regional planner, the term 'region' means the limit of his planning area. These limits in planning are, unfortunately, determined by existing administrative boundaries. The strongest of these administrative boundaries, but by no means the only one, is the Provincial boundary. The next strongest are the boundaries of the various forms of municipal districts. It is by these boundaries that the planning areas of the various Planning Commissions in Alberta have been established. The location of these somewhat arbitrary limits is not always ideal for the purposes of planning. The legal boundaries serve the purposes for which they were created. These purposes are not the same as those for planning. The result is that planning must operate within boundaries that are not entirely suited to its objectives and activities. Many of these administrative boundaries cannot be readily changed. The planner is then faced with trying to adjust his ideal planning area to existing administrative boundaries in order to implement his plan in the most effective and beneficial manner.

The planner's ideal planning area is determined by many factors. The planning region can be described as a territory which possesses enough of the sameness to distinguish it fundamentally from its neighbors. On the basis of certain natural and cultural characteristics an ideal region can be delimited. This must be adjusted to the existing administrative boundaries or the regional authority could have powers to extend beyond ordinary administrative limits. Such authority is found in the Federal Government. This



authority has also been displayed by the Tennessee Valley Authority.

Ideally, a region should be a natural geographical area. It should have a core where features that characterize the region as a whole become more pronounced or concentrated. The people of a region are like-minded. They have similar dressing habits, similar language, diet, religion, and cultural beliefs. The people are employed in typical regional activities. Certain characteristics of the Region become well known and are associated only with that region. For example, the southern plantation and negro spirituals remind one of the Southern Region of the United States. These many features which can distinguish an area as being different are never found in complete agreement, overlapping is inevitable. But an area can be distinguished as being the most representative of the multitude of characteristics existing.

There are many physical and engineering advantages to planning in a natural geographic area. Power development, irrigation, transport systems, and many natural resources, for example, can be developed in their entirety and not just in pieces. There are advantages in the strength of a Region. The region is strong because it can solicit and elicit support through sentiment and identity of interest -- a powerful combination. Region-wide cooperation increases the ability of an area to develop by pooling its knowledge, resources, and facilities.

We need a regional authority with the power to set aside primeval areas and to fix new industrial sites; so that recreation facilities and industrial opportunities will be planned with a view to the needs of the population as a whole. No single community, however, enlightened -- not even the biggest of metropolitan centers -- can make such plans or carry them out. <sup>48</sup>

The concept of regional development is not new. Regional projects have been undertaken in the United States, Africa, India, and Russia. Such

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<sup>48</sup>Lewis Mumford as cited by James Dahir , Region Building, (New York: Harper, 1955), p. 163



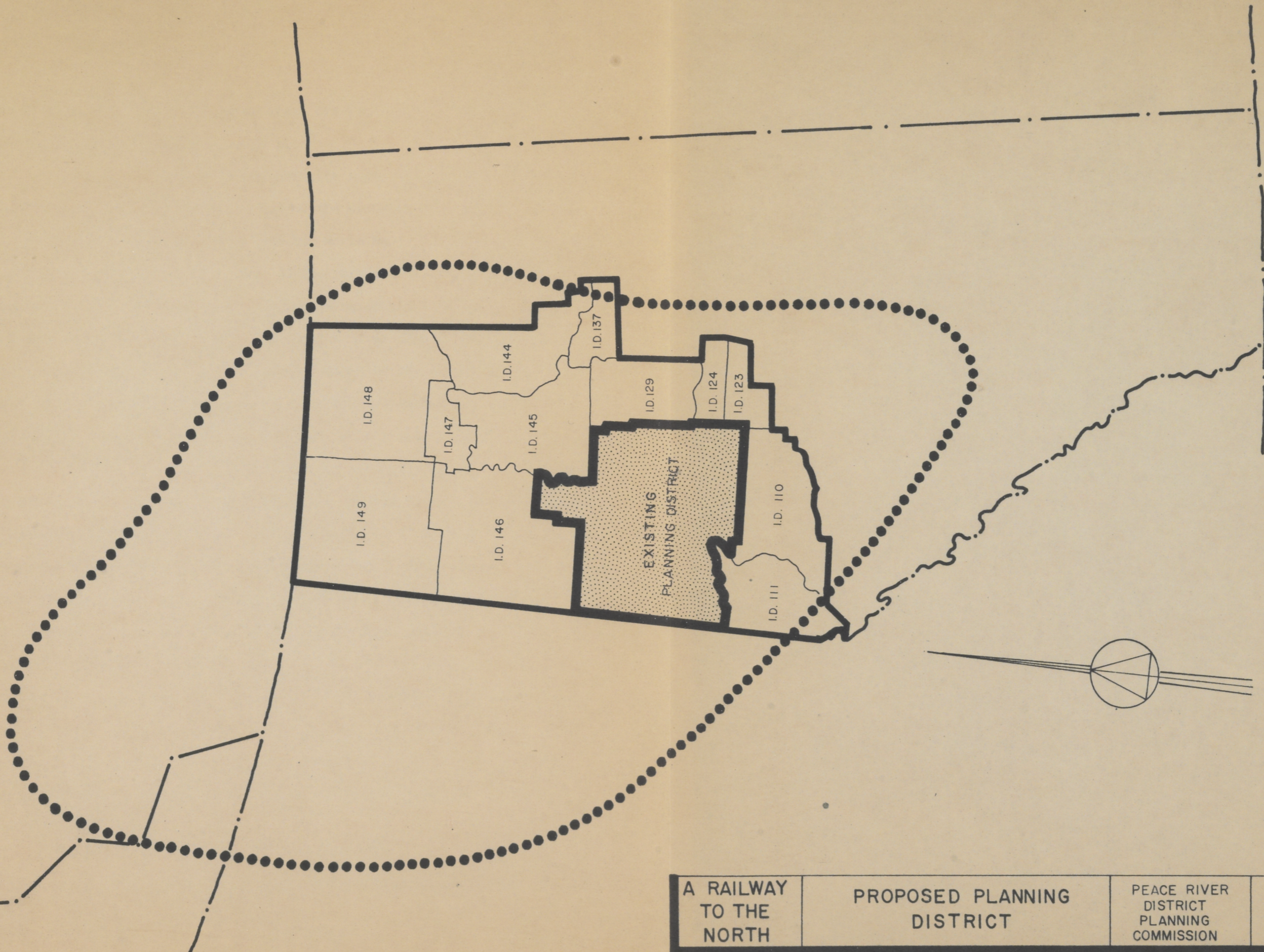
developments could take place in Canada. An opportunity for regional planning exists in the northern part of Alberta. There is legislation which will permit this. There is a wealth of resources there to develop. Enough so that roads and railways are being built and more are being planned to open this rich region. The time for regional planning to act is immediately so that good settlement and sound development will be ensured. Few relatively virgin areas exist where an opportunity for such fundamental planning is found. This should not be lost. Time is of the essence -- for each month that is lost more unguided and uncoordinated development is taking place in this region. It is far easier to prevent poor development than to try and cure its ill effects at a later date. The Peace River District Planning Commission is a commendable effort toward true regional planning but its hands are tied by uncompromising administrative boundaries. There is a real need for a unity of action over the entire natural Peace River Region. Such action could be taken by an expanded Peace River District in the Alberta section as shown by Drawing 8 on page 43,<sup>49</sup> but beyond this some other authority is needed.

## 2. Delimitation of the Peace River Region

A number of criteria can be used to show that an area of relative homogeneity exists, which for the purposes of this report will be described as the Peace River Region. The characteristics of this geographic area

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<sup>49</sup> From a map of the municipal districts of Alberta by the Department of Highways, Edmonton, 1957.



A RAILWAY TO THE NORTH	PROPOSED PLANNING DISTRICT	PEACE RIVER DISTRICT PLANNING COMMISSION	8
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which distinguish it from all other areas are both natural and cultural.

These are shown on Drawing 2 on page 11.<sup>50</sup>

A study of the natural characteristics shows that an area of similar geologic origin (the Cretaceous period of the Mesozoic era) stretches over part of Alberta, British Columbia, and the North West Territories. The edge of the Canadian Shield is also found on the northeastern limit of this general area. In the west, the Rocky Mountains create a definite border separating the prairie-like area of the Peace River from the mountainous terrain of British Columbia. The drainage basin of the Peace River is also shown. As a criterion of delimitation this feature emphasizes largely the extent of the western Regional boundary but it is a weak criteria in the east since much of the basin here differs in elevation by only a few feet. In other words, the basin as outlined in the prairie area is not as sharply differentiated from surrounding areas as it would be if the topography varied as sharply in elevation as in the Rocky Mountains. (Sharp changes in elevation affect climate, soils, and vegetation which give significantly different characteristics to areas). The drainage basin does, however, aid in locating a natural southeastern limit for this Region. The soils of this Region are largely of the grey-wooded type as shown on the drawing. The characteristic North Interior climate of the Region is shown to end in the southern and western part of the Region in much the same general location as the other natural phenomena. The ice season changes markedly from over 7 months of

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<sup>50</sup> Data for this Drawing were obtained from:

E.G. Pleva, The Canadian Oxford Desk Atlas of the World, (Toronto: Oxford University, 1957), et passim.

MacGregor, op. cit. et passim.

Chapman, et al, op. cit. et passim.



freeze-up to less than 7 months of freeze-up, along a line on the north-eastern boundary which lies in conformity to the pattern created by the other boundaries of natural phenomena found in that area.

Man and his activities have made a number of cultural changes in the Region. These help to delineate a Regional Core Area. Population and agricultural activities are concentrated at the center of the Natural Region as shown on Drawing 2 on page 11. A black soil is also found almost exclusively in this area. These cultural features combine in a pattern that permits a separate area to be delineated from the Region as a Core. The pattern created by these natural and cultural features delineate then a Peace River Region and a Core similar to that shown on Drawing 3 on page 12. The people of the Peace River Region and particularly the Core, are similar in many respects. They work largely in agriculture. Field crops and grazing are important. Oil and gas well development is a common activity throughout the area. "Cowboys" and native Indians are a common sight. Everyone enjoys a rodeo. Although nature has given us these ideal regional boundaries, man has divided this Peace River Region between Alberta, British Columbia and the North West Territories. Nevertheless, the area administered by the Peace River District Planning Commission is at the Core of this Region. The largest administrative part of the Natural Peace River Region is under the jurisdiction of Alberta. The administrative region and core are shown on Drawing 3 on page 12. Only the Federal Government itself or some authority (such as the Tennessee Valley Authority) could administer the Natural Peace River Region as a whole. Such unification in administration could enable the Region to develop in the most efficient manner which would yield a maximum



prosperity of Canada. A step in the right direction can be taken by extending the boundaries of the Peace River District Planning Commission as shown on Drawing 8 on page 43.

### 3. Proposed Extension of the Boundaries of the Peace River District Planning Commission

The concept of regionalism has been discussed, and a number of advantages to planning in a natural region have been examined. The natural Peace River District Planning Region has been delineated. The ideal administrative region has also been described. It appears evident that the Commission should extend its boundaries.

There is further evidence to support this expansion.

1. The problems of planning are often the result of a lack of control. Planning control in Alberta is exercised by the Province through subdivision regulations particularly, and by local authorities, through zoning and other measures. The control of land use beyond the urban centers is exercised by District Commissions. Beyond the districts, there is no effective overall planning or unified guidance. Unsatisfactory development along the borders of the District are as liable to occur there as they are around a town or a city. It would be somewhat discouraging then, for the Peace River District to devise a District Plan for coordinated development when there is no plan or control for development beyond this District. The authority of the Commission should therefore, be extended to ensure sound unified planning over the entire Peace River Region in Alberta.

2. This District has been named the Peace River District, yet it covers only a small part of the natural region or administrative region, as described on pages 44 and 45. To try to plan within these arbitrary limits is



unnecessary. The boundaries should be extended to be as close to what is the natural Peace River Region as is possible.

3. The Improvement Districts to the north, south, and east of the existing boundaries of the Peace River District are not large enough or populated enough to have a separate Planning District created to administer local planning. Unless these improvement districts are included within some Planning District, they will remain as unplanned fragments within the Province. The natural administrative boundary of the District to the north is the Provincial boundary, and in the east -- Wood Buffalo Park. In the west the British Columbia provincial border serves adequately. In the south the nearest municipal boundary that corresponds approximately to the natural limit in that area would be ideal. The improvement districts that should be incorporated within the Peace River District Planning Commission by such an expansion are under the jurisdiction of the Province of Alberta. They have very small populations, some have no population. These are as follows:

Improvement Districts	Population
110	346
111	241
123	2
124	3216
129	877
137	127
144	26
145	136
146	634
147	2500
148	nil
149	122
	<hr/>
Total	<u>8227</u>

The fact that these areas are thinly populated presents an outstanding



opportunity for the Commission and the Province to plan on a regional basis for this large part of the Peace River Region. Such an extension offers an opportunity for planning in its ideal conditions. These conditions are to plan before any unguided development begins. Too often the need for planning is recognized only after great problems have been created. At such a time it is expensive and difficult to rectify the past mistakes. In planning, the old adage -- "An ounce of prevention is worth a pound of cure" -- can be aptly applied.

4. The proposed Peace River District appears very large on a map. The added districts are, however, really very small in population. An enlarged district will not be more difficult to administer than the present Peace River District is today. The problem of distance can and must be solved. Because the distances are very great in the north, does not justify the position that coordinated planning should not be attempted in these outlying Improvement Districts. If some part of the proposed District increases in population so that a need for a more local administration is demanded then a Branch Office could be established to serve that area. The important fact is not how we propose to solve all the problems that are involved in expansion, but rather that some action be taken now while the time is ripe to plan in these relatively virgin areas.

5. The Peace River District Planning Commission is handicapped by having a limited staff. In order to operate a planning office a certain administrative staff is needed to operate the office efficiently. The widening of the boundaries of the District will help to provide funds for a needed increase in the staff sometime in the future.

6. It is possible to provide the Improvement Districts with planning



advice from Edmonton. But planning problems are often local in nature and can best be solved by people who live in the area and are intimately acquainted with it. A local planning administration in the form of a District Office then appears to have distinct advantages.

It is generally accepted that in a country as vast as Canada or even as extensive as most of the provinces, local units of government are indispensable to effective administration. It is generally believed by students of government that if a democratic form of government is to survive at a national level, it can only do so if it is built upon a foundation of local autonomy. Such a system of local government must be one in which the municipalities are not merely agencies of a higher authority but rather units which have ultimate responsibility within their sphere of jurisdiction. This sphere must be of sufficient scope to make the local authority significant in the esteem of the citizens and thus attract into public service a high quality of men and women in both elected and appointed offices . . . . .

A unit of government which has not its power of final decision but which must carry the responsibility for financing and administering of policies which are not of its making is contrary to the fundamental principles of responsible government and places its elected representatives in an unthinkable position.<sup>51</sup>

It is therefore recommended that negotiations with the Province of Alberta begin regarding this proposed extension of boundaries. The enlarged district is shown in Drawing 8 on page 43.

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<sup>51</sup> Kenneth Grant Crawford, Canadian Municipal Government, (Toronto: Toronto University Press, 1954), p. 342, 343.





